

Hotwire® ADSL/R Bridge/Router, Model 6381 with Inline Phone Filter Installation Instructions

Document Number 6381-A2-GN10-30

February 2004

Installation Procedures

To install the Hotwire ADSL/R Bridge/Router:

- Verify the contents of the package and obtain the correct cables (see *Package Checklist* on page 4 and *Wiring and Cables You Need (not supplied)* on page 4)
- Install phone filters on all phones that will share the same phone line as the router (see *Installing Phone Filters* on page 5)
- Connect the router (see *Installing the Hotwire ADSL/R Bridge/Router* on page 6)
- Verify that the front panel LEDs show the correct status (see *LED Status* on page 9)
- If necessary, configure the router (see *Configuring the Hotwire ADSL/R Bridge/Router* on page 10)

Definitions

The following terms are used in this booklet.

network	A group of connected things, such as telephones or computers.
bridge	A device that forwards any message from one part of a network to another. The Hotwire ADSL/R Bridge/Router is shipped as a bridge.
router	A device that forwards messages according to their network addresses. You must configure the Hotwire ADSL/R Bridge/Router to make it work as a router.
POTS	Plain Old Telephone Service. The voice service provided over the public switched telephone network (PSTN).
DSL	Digital Subscriber Line. The technology that allows you to use a POTS line for both voice calls and high-speed Internet access simultaneously.
ADSL	Asymmetric DSL. A version of DSL that allows a higher speed for information coming from the Internet to your PC ("downstream") than it does for information going to the Internet from your PC ("upstream").
ReachDSL	A proprietary Paradyne version of DSL that works on lines too long or too noisy for ADSL.
ADSL/R	The technology that combines ADSL and ReachDSL in one device.

Software and Firmware License Agreement

ONCE YOU HAVE READ THIS LICENSE AGREEMENT AND AGREE TO ITS TERMS, YOU MAY USE THE SOFTWARE AND/OR FIRMWARE INCORPORATED INTO THE PARADYNE PRODUCT. BY USING THE PARADYNE PRODUCT YOU SHOW YOUR ACCEPTANCE OF THE TERMS OF THIS LICENSE AGREEMENT.

IN THE EVENT THAT YOU DO NOT AGREE WITH ANY OF THE TERMS OF THIS LICENSE AGREEMENT, PROMPTLY RETURN THE UNUSED PRODUCT IN ITS ORIGINAL PACKAGING AND YOUR SALES RECEIPT OR INVOICE TO THE LOCATION WHERE YOU OBTAINED THE PARADYNE PRODUCT OR THE LOCATION FROM WHICH IT WAS SHIPPED TO YOU, AS APPLICABLE, AND YOU WILL RECEIVE A REFUND OR CREDIT FOR THE PARADYNE PRODUCT PURCHASED BY YOU.

The terms and conditions of this License Agreement (the “Agreement”) will apply to the software and/or firmware (individually or collectively the “Software”) incorporated into the Paradyne product (the “Product”) purchased by you and any derivatives obtained from the Software, including any copy of either. If you have executed a separate written agreement covering the Software supplied to you under this purchase, such separate written agreement shall govern.

Paradyne Corporation (“Paradyne”) grants to you, and you (“Licensee”) agree to accept a personal, non-transferable, non-exclusive, right (without the right to sublicense) to use the Software, solely as it is intended and solely as incorporated in the Product purchased from Paradyne or its authorized distributor or reseller under the following terms and conditions:

1. **Ownership:** The Software is the sole property of Paradyne and/or its licensors. The Licensee acquires no title, right or interest in the Software other than the license granted under this Agreement.
2. Licensee shall not use the Software in any country other than the country in which the Product was rightfully purchased except upon prior written notice to Paradyne and an agreement in writing to additional terms.
3. The Licensee shall not reverse engineer, decompile or disassemble the Software in whole or in part.
4. The Licensee shall not copy the Software except for a single archival copy.

5. Except for the Product warranty contained in the manual, the Software is provided "AS IS" and in its present state and condition and Paradyne makes no other warranty whatsoever with respect to the Product purchased by you. THIS AGREEMENT EXPRESSLY EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OR ORAL OR WRITTEN, INCLUDING WITHOUT LIMITATION:

- a. Any warranty that the Software is error-free, will operate uninterrupted in your operating environment, or is compatible with any equipment or software configurations; and
- b. ANY AND ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

Some states or other jurisdictions do not allow the exclusion of implied warranties on limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from one state or jurisdiction to another.

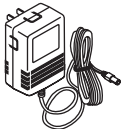
6. IN NO EVENT WILL PARADYNE BE LIABLE TO LICENSEE FOR ANY CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR SPECIAL DAMAGES, INCLUDING ANY LOST PROFITS OR LOST SAVINGS, LOSS OF BUSINESS INFORMATION OR BUSINESS INTERRUPTION OR OTHER PECUNIARY LOSS ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE, WHETHER BASED ON CONTRACT, TORT, WARRANTY OR OTHER LEGAL OR EQUITABLE GROUNDS, EVEN IF PARADYNE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY THIRD PARTY.
7. The rights granted under this Agreement may not be assigned, sublicensed or otherwise transferred by the Licensee to any third party without the prior written consent of Paradyne.
8. This Agreement and the license granted under this Agreement shall be terminated in the event of breach by the Licensee of any provisions of this Agreement.
9. Upon such termination, the Licensee shall refrain from any further use of the Software and destroy the original and all copies of the Software in the possession of Licensee together with all documentation and related materials.
10. This Agreement shall be governed by the laws of the State of Florida, without regard to its provisions concerning conflicts of laws.

Package Checklist

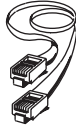
Verify that your package contains the following:



Hotwire 6381
ADSL/R
Bridge/Router



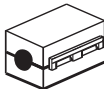
Power cord with
power transformer*



DSL interface cable
with RJ11 connectors



Ethernet 8-pin
cable



Two ferrite clamps

* Some models are shipped with a desktop transformer and a separate, country-specific power cord. Refer to the electrical ratings on the transformer for the proper AC line voltage and frequency.

Wiring and Cables You Need (not supplied)

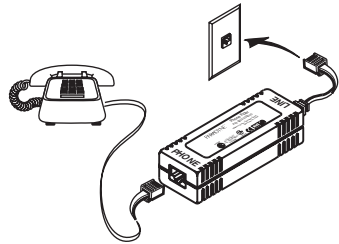
The following standard cables and connectors are used with this product:



Standard RJ11
(or RJ14) wall jack for
the DSL cabling

Installing Phone Filters

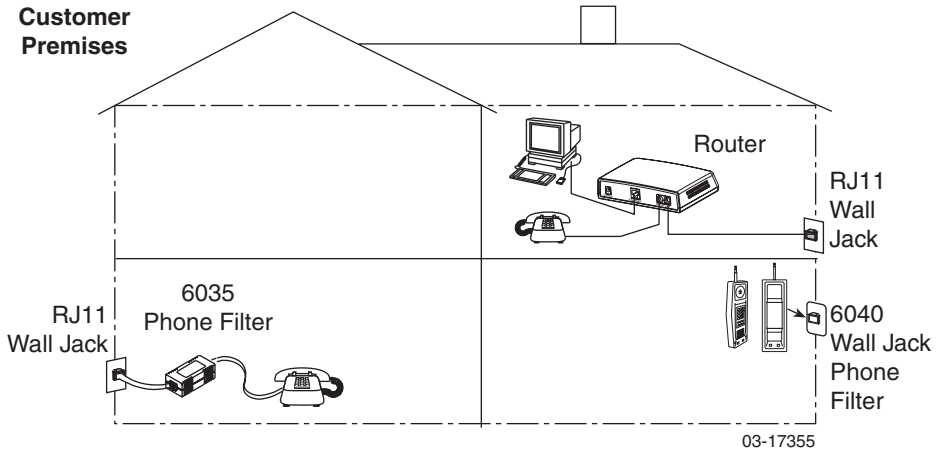
A phone filter is recommended to minimize background noise during a phone conversation on telephones not connected directly to the Hotwire ADSL/R Bridge/Router. If additional telephones in your home or business share the same phone line with the router, install one phone filter on each telephone. A fax machine or other equipment that uses the same POTS line as the router must also use a filter.



There are two Hotwire phone filters available:

- Hotwire 6035 Universal Phone Filter is designed for use with a tabletop phone.
- Hotwire 6040 Wall Jack Phone Filter is designed for use with a wall phone.

Customer Premises



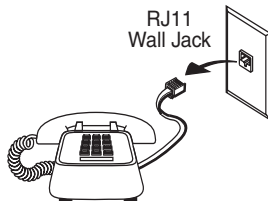
Contact your sales or service representative to order Hotwire phone filters.

Installing the Hotwire ADSL/R Bridge/Router

Place the router on a flat surface with clearance for the rear connectors.

► Procedure

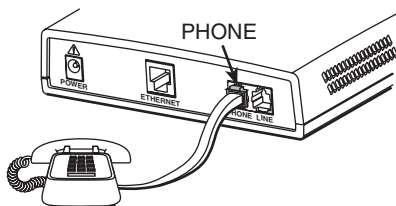
- 1. UNPLUG TELEPHONE.** If a telephone is connected at the RJ11 wall jack where the router will be installed, unplug the telephone cable from the wall jack.



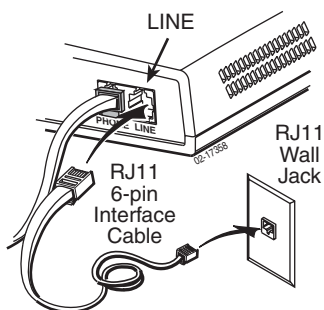
- 2. RECONNECT TELEPHONE.**

(Optional. Go to Step 3 if you are not connecting a telephone to the router.)

Plug the existing telephone cable that was unplugged in Step 1 into the jack labeled PHONE. The router has a built-in filter, so no filter is required on this phone.

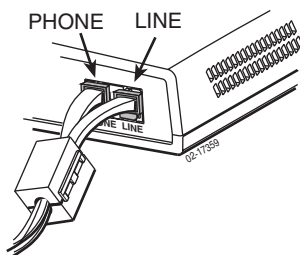


- 3. CONNECT DSL LINE.** Use the supplied RJ11 telephone cable for the ADSL/R line connection. Insert one end of the cable into the jack labeled LINE. Insert the other end of the cable into the RJ11 wall jack.



- 4. INSTALL WHITE FERRITE CLAMP.** If you plugged in a phone, install the supplied white ferrite clamp around both the LINE and PHONE cables. If you did not plug in a phone, install the white clamp around the LINE cable.

Hold the open clamp around the cable or cables as close to the router as possible. Close the clamp and lock it by pressing on the latch.

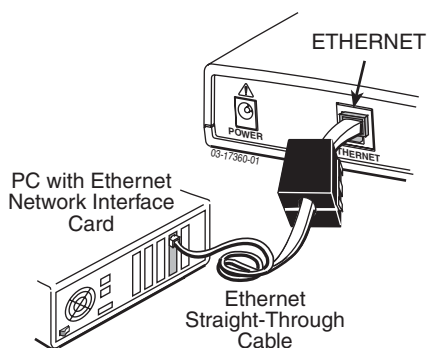


- 5. CONNECT TO PC OR ETHERNET HUB.** Use an 8-pin Ethernet cable (straight-through or crossover) for the Ethernet connection. Insert one end of the cable into the jack labeled ETHERNET.

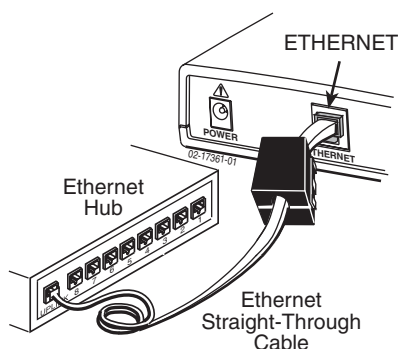
Connect to one of the following:

- **PC.** Use an Ethernet standard, straight-through cable and connect the other end to a PC with an Ethernet Network Interface Card (NIC) installed.

— or —

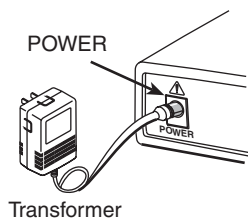


- **Ethernet Hub.** Use an Ethernet standard, straight-through cable and connect the other end to an Ethernet hub's Uplink port. (To connect to a hub's standard port, use an Ethernet crossover cable. See the documentation that came with your hub.)



- 6. INSTALL BLACK FERRITE CLAMP.** Hold the open clamp around the Ethernet cable as close to the router as possible. Close the clamp and lock it by pressing on the latch.

-
- 7. CONNECT TO POWER.** Insert the round connector of the transformer's thin power cord into the jack labeled POWER. If the transformer has a built-in plug, plug it into an AC outlet. If the transformer has a separate power cord, connect the cord to the transformer, then plug the power cord into an AC outlet.



When the power cord is installed, the router goes through a power-on self-test. *LED Status* on page 9 shows how the LEDs should appear after a successful test.

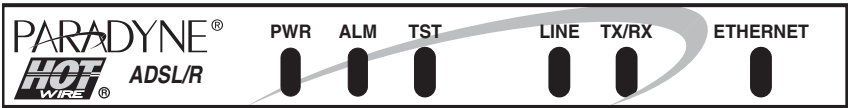
Installation is now complete.

If your Internet Service Provider (ISP) has instructed you to configure the Hotwire ADSL/R Bridge/Router using the web interface, or if you would like to use the device as a router, proceed to *Configuring the Hotwire ADSL/R Bridge/Router* on page 10.

Note to service provider: Each 6381 on the same subnet requires a unique IP address if you wish to upgrade firmware or access it using the web interface.

LED Status

The Hotwire ADSL/R Bridge/Router's front panel includes LEDs (light-emitting diodes) that show the status of the Bridge/Router. In Table 1, Front Panel LEDs, the Condition in **BOLD** shows how the LED should appear after a successful power-on self-test.



03-17357

Table 1. Front Panel LEDs

LED	Condition	Status
PWR	ON	The router has power.
ALM	ON	An alarm condition exists.
	OFF	No alarms have been detected by the router.
TST	–	(The TST LED is not used.)
LINE	ON	The DSL link is established.
	OFF	No DSL link has been established.
TX/RX	Blinking	Data transmission is in progress on the DSL line.
	OFF	No data is being transmitted or received by the router.
ETHERNET	ON	The Ethernet connection is active.
	OFF	No Ethernet device is detected.

Configuring the Hotwire ADSL/R Bridge/Router

STOP. Do not proceed with this section unless you were so instructed by your Internet Service Provider (ISP), or you are familiar with IP and routing protocols.

Depending on the requirements of your ISP, your Hotwire ADSL/R Bridge/Router may have a web interface that you can access using Internet Explorer 6.0 or above. The web interface is used to configure the router.

Configuration Table of Contents

Accessing the Web Interface	11
Configuring DSL Modulation	13
DSL Status	13
DSL Test	13
Configuring PVCs and Connections	14
Modifying an Existing PVC	15
Modifying an Existing Connection (NAT, Firewall)	16
Configuring DHCP	19
Changing the Bridge/Router's IP Address	20
Saving Changes, Restarting, and Restoring Factory Defaults	21
Configuring the System Log	21
Displaying the System Status	22
Product Information	22
Remote Log	23
Changing the Bridge/Router's Password	23
Ping	23
Game Servers, Application Servers, and Services	24
Bridge Options	24

Accessing the Web Interface

► Procedure

To configure the router using the web interface:

1. Start Internet Explorer 6.0 or above on a PC that is connected to the router directly or through your hub.
2. Type the following into Internet Explorer's address line:
http://192.168.1.1:8080
3. Press Enter. The Login screen appears.
4. Type the Name and Password exactly as they were supplied to you by your ISP. Both Name and Password are **Admin** if your ISP uses the factory default.
5. Click on OK. The web interface main screen appears.



The main screen consists of four sections, called frames:

- A header frame at the top of the screen
- A menu frame on the left side of the screen
- A content area in the middle of the screen
- A status area at the bottom of the screen

The menu frame has the following selections:

Table 2. Web Interface Menu Selections

Menu Category	Drop-Down Menu Name	Menu Selections
DSL – Used to configure and monitor the DSL Wide-Area Network (WAN)	Line	Modulation
		Status
		Test
	ATM PVC	New
		BridgeVC
	Connection	New
		Bridge
		<i>Existing Connections</i>
Local – Used to control and monitor the Bridge/Router	Options	Commands
		System Log
		System Status
		Product Information
		Ethernet
		Remote Log
		User Management
		Ping
Services – Used to configure and monitor the Ethernet Local Area Network (LAN)	Options	DHCP Status
		DHCP Configuration
		Game Servers
		Application Servers
		Services
		Bridge Options
Help – Provides information about the web interface	Topics	Introduction
		Contents

Configuring DSL Modulation

To change the DSL modulation:

1. Select Modulation from the *DSL > Line* menu.

Line Modulation

Current Setting: MMODE

Change Modulation:

MMODE

Cancel

Apply

2. Select a modulation from the drop-down list:
 - **T1413** – ANSI T1.413-1998
 - **GDMT** – G.dmt (G.992.1)
 - **GLITE** – G.lite (G.992.2)
 - **MMODE** – Multi-Mode (the modulation is automatically detected)
 - **NONE** – No modulation (the link is disabled)
3. Click on Apply.

NOTE: In configurations with multiple bridged PVCs, communication with the endpoint is temporarily lost when you change the DSL modulation.

DSL Status

Select Status from the *DSL > Line* menu to display DSL, ATM, and ReachDSL statistics.

DSL Test

Select Test from the *DSL > Line* menu to send OAM (ATM) pings to a selected PVC.

Configuring PVCs and Connections

The minimum configuration requires the definition of at least one Permanent Virtual Circuit (PVC) and a Connection. The factory default configuration includes one PVC, named BridgeVC, and one connection, named Bridge.

Defining a PVC

The PVC is an ATM Virtual Circuit used to communicate over the DSL link. The Bridge/Router supports up to seven PVCs.

To create a PVC:

1. Select *DSL > ATM PVC > New*. The New PVC screen appears.
2. Enter a PVC Name and click on Next.
3. Enter the VPI, VCI and choose a QoS option:
 - **UBR** (Unspecified Bit Rate)
 - **CBR** (Constant Bit Rate)
 - **VBR** (Variable Bit Rate)
4. For CBR, enter the Peak Cell Rate (PCR). For VBR, enter the PCR and Sustainable Cell Rate (SCR). Permitted values for both PCR and SCR are 0–10,000,000.
5. Click on Apply.

Defining a Connection

The **Connection** defines a communication method for a **PVC**.

To create a connection:

1. Select *Connection > New*. The New Connection screen appears.

New Connection

Connection Name

PVC

DHCP ☒ **PPPoA** ☐ **PPPoE** ☐ **Static** ☐ **Bridged** ☐

-
2. Enter a Connection Name and choose a PVC and a communication method:
 - **DHCP** – Obtain an IP address automatically. This method uses the Dynamic Host Configuration Protocol (DHCP) to obtain the IP address from the server. The IP address is dynamically assigned and is not known prior to assignment.
 - **PPPoA** – PPP (Point to Point Protocol) over ATM is defined in RFC 2364. It is a method of encapsulating PPP packets over ATM cells which are carried over the DSL line. PPP is a method of establishing a session between network hosts. It usually provides a mechanism of authenticating users.
 - **PPPoE** – PPPoE (Point to Point Protocol over Ethernet) is defined in RFC 2516. PPPoE is a method of encapsulating PPP packets over Ethernet.
 - **Static** – Specify an IP address. Use this option if your ISP has assigned a static IP address. Enter the IP address, subnet mask, and gateway as instructed by your ISP. Up to three Domain Name Server (DNS) addresses can also be specified. These allow you to have access to other web servers.
 - **Bridged** – The connection is bridged. The Bridge/Router acts as a hub, and passes all packets across the DSL port. On a single-PVC system, the upstream router must be on the same subnet as the Ethernet interface on the Bridge/Router (see *Changing the Bridge/Router's IP Address* on page 20).
 3. Click on Next.
 4. For PPPoA, PPPoE, or Static, enter the additional information required, as supplied by your ISP. For PPPoA or PPPoE:
 - If you have multiple PVCs, verify that On Demand is set to Off
 - If you set Max Attempts to 0, set Keep Alive to a value other than 1
 5. Click on Apply.
 6. Select *Local > Commands* in the menu frame. Click on Save All Changes.

Modifying an Existing PVC

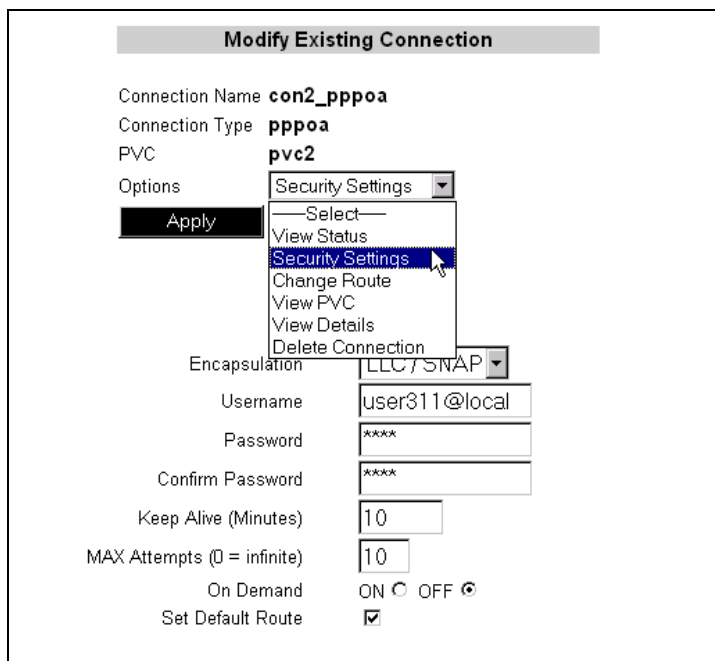
To modify a PVC already defined:

1. In the menu frame, select a PVC from the *DSL > ATM PVC* menu. The Modify PVC screen appears. From this screen you can modify the VPI, VCI, and QoS, or delete the PVC.
2. Click on Apply.
3. Select *Local > Commands* in the menu frame. Click on Save All Changes. Any changes made only apply to the selected PVC.

Modifying an Existing Connection (NAT, Firewall)

To modify a connection already defined:

1. In the menu frame, select a connection from the *DSL > Connection menu*. The Modify Existing Connection screen appears. From this screen you can modify the connection information, or delete the connection.



Modify Existing Connection

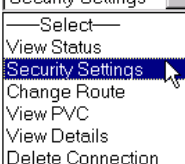
Connection Name **con2_pppoe**

Connection Type **pppoe**

PVC **pvc2**

Options **Security Settings** 

Apply



Encapsulation **LLC/SNAP** 

Username **user311@local**

Password ********

Confirm Password ********

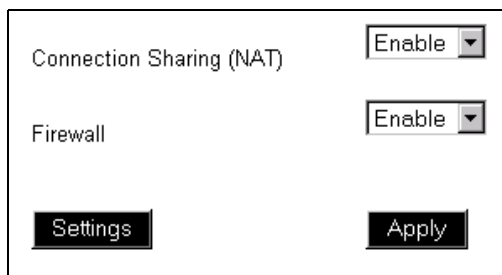
Keep Alive (Minutes) **10**

MAX Attempts (0 = infinite) **10**

On Demand **ON** ☐ **OFF** ☒

Set Default Route ☒

2. Select Security Settings to enable or disable NAT and the firewall. (NAT must be enabled for all connections or disabled for all connections.)



Connection Sharing (NAT) **Enable** 

Firewall **Enable** 

Settings **Apply**

3. In the Security Settings screen, click on Settings to invoke the Firewall Setup and Security Rules screen.

Firewall Setup for conn1

DMZ

Enable

Save

Host:

0.0.0.0

After "Save", push "Apply" on the next screen

Security Rules

State

No rules

rules/description

Add New Rule

4. The firewall DMZ option allows one local user to be exposed to the Internet for use of special-purpose services such as online gaming or videoconferencing. Enable DMZ if desired, and type the local address into the Host field that subsequently appears.
5. Selecting the Games Category from the Add New Rule drop-down menu invokes the Available Rules In Games Category screen. Here you can specify any games you are going to play by selecting Apply from the drop-down menu next to any game. The Bridge/Router automatically configures the proper firewall pinholes.

Available rules in games category

State	Rule Name	Description
Select...	alien	Alien vs. Predator
Select...	ash	Asheron's Call
Select...	dark_rein	Dark Rein 2
Select...	delta_force	Delta Force
Select...	dune	Dune 2000
Select...	elite_force	Elite Force
Select...	everquest	EverQuest
Select...	fighter_ace	Fighter Ace II
Select...	dx...	DX Gaming Support (use with MSN

Done

6. Selecting the Apps Category from the Add New Rules drop-down menu invokes the Available Rules In Apps Category screen. Select the applications you are going to use by selecting Apply from the adjacent drop-down menus. The Bridge/Router automatically configures the proper software portholes and blocks all other applications.
7. Selecting the Services Category from the Add New Rules drop-down menu invokes the Available Rules In Services Category screen. Select the services you are going to use by selecting Apply from the adjacent drop-down menu. The Bridge/Router automatically configures the proper software portholes and blocks all other services.

8. Selecting the Special Category from the Add New Rules drop-down menu invokes the Available Rules In Protected Category screen. Select the special functions you are going to use by selecting Apply from the adjacent drop-down menu. The Bridge/Router automatically configures the proper software portholes and blocks all other functions.
9. The selected game, application, service, and special rules are added to the Firewall Setup and Security Rules screen. Click on Save.

Firewall Setup for conn1

DMZ

Security Rules

State	Rule Name	Description
Select...	need_for_speed	Need for Speed 3
Select...	carboncopy	CarbonCopy32
Select...	ftp	ftp
Enable	icmp-type-3	block icmp type 3

10. Select *Local > Commands* in the menu frame. Click on Save All Changes. Any changes made apply only to the selected PVC.

If you require servers or services not already defined in the Bridge/Router, you can define new rules. See *Game Servers, Application Servers, and Services* on page 24.

Change Route in Multi-PVC Configurations

Select Change Route from the Options menu on the Modify Existing Connection screen to set a next-hop route for the connection, or a static route to an IP subnet that can be reached through this connection.

This functions the same in a single-PVC or a multi-PVC configuration, except in the use of the Default Gateway defined on the *Local > Ethernet* screen (see *Changing the Bridge/Router's IP Address* on page 20). In a multi-PVC configuration, Default Gateway is the gateway of last resort: if there is no other route in the routing table, the Bridge/Router sends the unknown packet to this gateway on whichever PVC is assigned to the same subnet. However, if you configure a router address as a part of the DHCP profile on the DHCP server, it overrides the default gateway when the DHCP client receives its IP address. The same holds true if you check the box for Set Default Route in the PPPoA or PPPoE setup screen.

You can tell if you have improperly configured a multi-PVC system by looking at the routing table (*Local > System Status > Route Table*). If you have more than one route to a destination of 0.0.0.0, it may be impossible to access the Bridge/Router from a remote site. You must correct your DHCP or PPP configuration.

Configuring DHCP

By default, your Bridge/Router has LAN-side Dynamic Host Configuration Protocol (DHCP) server disabled. This is necessary if you already have a DHCP server running on your network.

To configure and enable DHCP:

1. Select DHCP Configuration from the *Services > Options* menu. The DHCP Configuration screen appears.

DHCP Configuration	
☒	DHCP Server
☐	DHCP Relay
Settings	Select your configuration

2. Select DHCP Server and click on Settings. The DHCP Server Configuration screen appears.

DHCP Server Configuration		
PC Leases	Configure Server	DHCP Enabled
Status of udhcpd-1	Configure udhcpd-1	Server Running ▾

3. Click on the Status of udhcpd-1 button to see the lease time for the PCs that have connected via DHCP. Click on the Configure udhcpd-1 button to see the DHCP server configuration information:

DHCP Server Configuration on udhcpd-1 Network		
Lease Time	Start IP	End IP
3600	10.100.5.3	10.100.5.6
Apply Settings		

The Lease Time is the amount of time a network user is allowed connection to the Bridge/Router with their current dynamic IP address before it must be renewed. The time is in units of seconds. The default value is 3600 seconds (60 minutes).

If you change the Start IP or End IP values, make sure the values are still within the same subnet as the Bridge/Router's IP address. Otherwise you will not be able to communicate with the Bridge/Router if your PC has DHCP enabled.

The Start IP Address is where the DHCP server starts issuing IP addresses. This value must be greater than the Bridge/Router's IP address value. For example, if the Bridge/Router's IP address is 192.168.1.1 (the default), then the starting IP address must be 192.168.1.2 or higher.

The End IP Address is the last IP address the DHCP server issues. The ending address cannot exceed the subnet limit of 254, so the maximum value for the End IP Address based on the default address is 192.168.1.254.

4. Select *Local > Commands* in the menu frame. Click on Save All Changes.

Changing the Bridge/Router's IP Address

You can change the Bridge/Router's IP address or specify that it is set by DHCP on the Ethernet Configuration (*Local > Ethernet*) screen.

Ethernet Configuration

IP Address Assignment: ☒ Static ☐ DHCP

IP Address

10.100.5.2

Netmask

255.255.255.248

Gateway

10.100.5.6

Hostname

6381-1

Apply

Cancel

If you change the bridge IP Address or assignment method, you must use the new address to access this web interface.

1. Select an IP Address Assignment type. The IP address assignment can be static or assigned dynamically by a DHCP server. Select:
 - DHCP if you have another DHCP server on the network
 - Static if the Bridge/Router is the DHCP server for your network
2. If you select Static, enter an IP Address and Subnet Mask.

The DHCP server must have a fixed IP address. The DHCP server cannot move or change because clients log onto the DHCP server to obtain IP addresses.

The default IP address is 192.168.1.1 and the default subnet mask is 255.255.255.0. This subnet mask allows the Bridge/Router to support 253 users, which is its maximum.
3. Enter a Gateway address. The gateway is the routing device used to forward all traffic that is not addressed to a station within the local subnet. Your ISP supplies the Gateway Address.
4. Enter a Hostname. The hostname can be any alphanumeric word that does not contain spaces.
5. Click on Apply.

6. If you changed the IP Address, access the Bridge/Router using the new address.
7. Select *Local > Commands* in the menu frame. Click on Save All Changes. If the configuration is not saved, it is lost upon the next power reset.

If the Bridge/Router's DHCP server function is disabled, you must configure the IP address, subnet mask and DNS settings of every computer on your network. Do not assign the same IP address to more than one computer.

Saving Changes, Restarting, and Restoring Factory Defaults

Most changes made on the web interface screens are temporary. To permanently save the Bridge/Router's configuration, select Commands from the *Local > Options* menu. Click on Save All Changes.

Select one of the following commands:

Save All Changes

Restart Router

Collect System Info

Change Security Status

Restore Factory Defaults

From this screen you can also restart the Bridge/Router, collect system information (used for debugging), change the security status, and restore the Bridge/Router to its factory defaults.

Configuring the System Log

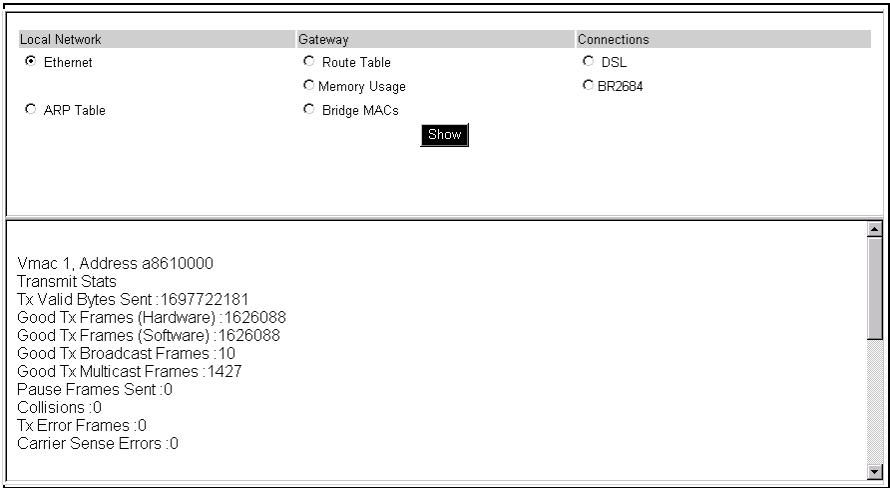
You can display the system log by selecting System Log from the *Local > Options* menu. Select Errors Only, Normal, or Tech Support, respectively, for minimized, standard, and highly detailed views of the log.

Displaying the System Status

You can display the Bridge/Router’s interface statistics on the System Status screen.

1. Select System Status from the *Local > Options* menu. The status screen appears.
2. Select one of the display options by clicking next to it:
 - Ethernet
 - ARP Table
 - Route Table
 - Memory Usage
 - Bridge MACs
 - DSL
 - BR2684 (NOTE: RFC 2684 bridge information is blank when PPPoA is active)
3. Click on Show.

For example, the following screen shows the system status screen with Ethernet selected.



Product Information

You can display the Bridge/Router’s driver and run-time information by selecting Product Information from the *Local > Options* menu.

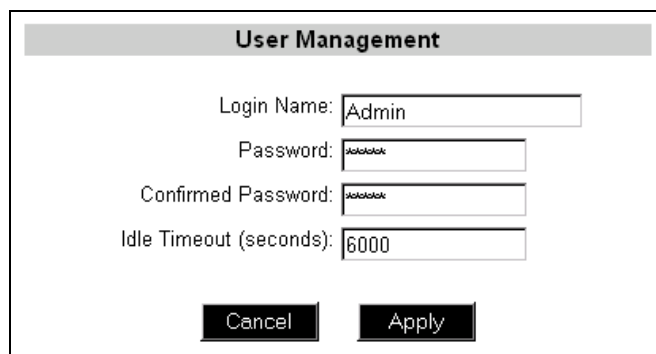
Remote Log

You can identify an IP address to which system log messages are sent by selecting Product Information from the *Local > Options* menu. Enter the IP address in the Add box and click on Apply.

Changing the Bridge/Router's Password

You can add users and change passwords using the User Management screen. For example, to change the administrator password:

1. Select User Management from the *Local > Options* menu.



The screenshot shows a web interface titled "User Management". It contains four input fields: "Login Name:" with the value "Admin", "Password:" with masked characters "*****", "Confirmed Password:" with masked characters "*****", and "Idle Timeout (seconds):" with the value "6000". At the bottom are two buttons: "Cancel" and "Apply".

2. Type Admin in the Login Name field, if it is not already present.
3. Type the new password in the Password and Confirmed Password fields.
4. Optionally, change the Idle Timeout value. A user is logged off automatically after this amount of time if no keyboard activity is detected. The default is 6000 seconds (100 minutes).
5. Click on Apply.
6. Select *Local > Commands* in the menu frame. Click on Save All Changes.

Ping

Once you have your Bridge/Router configured, it is a good idea to make sure you can ping the network. Select Ping from the *Local > Options* menu. Type the target address that you want to ping. If you have your PC connected to the Bridge/Router via the default DHCP configuration, you should be able to ping the network address 192.168.1.1. If your ISP has provided their server address, try to ping that address. If the pings for both the WAN and the LAN side complete successfully, and you have the proper protocols configured, the Bridge/Router is ready for use.

Game Servers, Application Servers, and Services

You can view and change the Game Server, Application Server, and Services rules from the *Services > Options* menu. These are the rules applied to a connection via the Add New Rule menu on the Firewall Setup and Security Rules screen. (See *Modifying an Existing Connection (NAT, Firewall)* on page 16.)

For example, to add a game server:

1. Select Game Servers from the *Services > Options* menu.
2. Click on Create New Rule. Two entry fields appear.
3. In Rule Name, enter a unique mnemonic containing 1 to 32 alphanumeric characters and no spaces. For example: **master_pastry_chef**
4. In Rule Description, enter the full name of the game, or any other identifier. For example: **Master Pastry Chef**
5. Click on Apply. The name is added to the Firewall Policy Database for Games screen, at the end of the list.
6. Select Edit from the drop-down list adjacent to the new database entry. The rule edit screen appears.
7. Click on Add to add a new protocol and port.
8. Select a protocol and enter a port, list of ports, or range of ports (according to the option you select). Click on OK. The completed rule is added to the database.

Bridge Options

You can view and change Bridge Options from the *Services > Options* menu. The Bridge Options screen allows you to turn on the Spanning Tree feature. Spanning tree is used to detect whether multiple Ethernet hubs have been cabled together improperly. It is normally not needed and should only be turned on if you are using multiple hubs behind your Bridge/Router.

Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered.
3. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
4. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.
5. General purpose cables are used with this product for connection to the network. Special cables, which may be required by the regulatory inspection authority for the installation site, are the responsibility of the customer. Use a UL Listed, CSA certified, minimum No. 24 AWG line cord for connection to the Digital Subscriber Line (DSL) network.
6. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
7. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnected**, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.
8. Input power to this product must be provided by one of the following: (1) a UL Listed/CSA certified power source with a Class 2 or Limited Power Source (LPS) output for use in North America, or (2) a certified transformer, with a Safety Extra Low Voltage (SELV) output having a maximum of 240 VA available, for use in the country of installation.
9. In addition, since the equipment is to be used with telecommunications circuits, take the following precautions:
 - Never install telephone wiring during a lightning storm.
 - Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
 - Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
 - Use caution when installing or modifying telephone lines.
 - Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
 - Do not use the telephone to report a gas leak in the vicinity of the leak.

Notice to Users of the United States Telephone Network

The following notice applies to versions of the Hotwire ADSL/R Bridge/Router, Model 6381, that have been FCC Part 68 approved.

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the Administrative Council for Terminal Attachment (ACTA). On the bottom side of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the Telephone Company.

This equipment is intended to connect to the Public Switched Telephone Network through a Universal Service Order Code (USOC) type RJ11C or RJ14C jack. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It has been designed to be connected to a compatible modular jack that is also compliant.

The Ringer Equivalence Number (or REN) is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local Telephone Company. The REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point. For example, 03 represents a REN of 0.3.

If the ADSL/R Bridge/Router causes harm to the telephone network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the Telephone Company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The Telephone Company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the Telephone Company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with the ADSL/R Bridge/Router, refer to the repair and warranty information in this document.

If the equipment is causing harm to the telephone network, the Telephone Company may request that you disconnect the equipment until the problem is resolved.

The user may make no repairs to the equipment.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If the site has specially wired alarm equipment connected to the telephone line, ensure the installation of the ADSL/R Bridge/Router does not disable the alarm equipment. If you have questions about what will disable alarm equipment, consult your Telephone Company or a qualified installer.



CANADA – EMI NOTICE:

This Class B digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du règlement sur le matériel brouilleur du Canada.

Notice to Users of the Canadian Telephone Network

NOTICE: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation IC before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

NOTICE: The Ringer Equivalence Number (REN) for this terminal equipment is labeled on the equipment. The REN assigned to each terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

If your equipment is in need of repair, contact your local sales representative, service representative, or distributor directly.

Japan – Notices

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス B 情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

CE Marking

When the product is marked with the CE mark on the equipment label, a supporting Declaration of Conformity may be downloaded from the Paradyne World Wide Web site at www.paradyne.com. Select *Support* → *Technical Manuals* → *CE Declarations of Conformity*.

Declaration of Conformity

This Declaration of Conformity is made by Paradyne Corporation pursuant to Parts 2 and 15 of the Federal Communications Commission's Rules. This compliance information statement pertains to the following products:

Trade Name: Hotwire
Model Number: 6381-Ax-2xx

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The name, address, and telephone number of the responsible party is given below:

Paradyne Corporation
8545 126th Avenue North
Largo, FL 33773-1502
Phone: (727) 530-2000

The authority to operate this equipment is conditioned by the requirement that no modifications will be made to the equipment unless the changes or modifications are expressly approved by Paradyne Corporation. The supplied ferrite clamps must be installed as instructed to ensure compliance with Part 15, FCC Rules.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Supplier's Declaration of Conformity

Place of Issue: Paradyne Corporation
8545 126th Avenue North
Largo, FL 33773-1502
USA

Date of Issue: 02/26/2003

Paradyne Corporation, located at the above address, hereby certifies that the Hotwire® ADSL/R Bridge/Router Model Number 6381-AX-210, bearing labeling identification number US:AW2DL03B6381-AX complies with: the Federal Communications Commission's ("FCC") Rules and Regulations 47 CFR Part 68, the Administrative Council on Terminal Attachments ("ACTA")-adopted technical criteria TIA-968-A, "Telecommunications - Telephone Terminal Equipment -Technical Requirements for Connection of Terminal Equipment To the Telephone Network, October 2002."

Patrick Murphy
Senior Vice President, Chief Financial Officer



Trademarks

Hotwire is a registered trademark of Paradyne Corporation. ReachDSL is a trademark of Paradyne Corporation. All other products and services mentioned herein are the trademarks, service marks, registered trademarks, or registered service marks of their respective owners.

Notice to Service Providers

Consult any associated release notes before upgrading firmware. Both, when available, will be found at **www.paradyne.com**. Select *Support* → *Subscriber Firmware*.



6381-A2-GN10-30